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Re-evaluation Decision RVD2018-22

# Cypermethrin and Its Associated End-use Products

*Final Decision*

*(publié aussi en français)*

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# Re-evaluation Decision

Under the authority of the *Pest Control Products Act,* all registered pesticides must be regularly re-evaluated by Health Canada's Pest Management Regulatory Agency (PMRA) to ensure that they continue to meet current health and environmental safety standards and continue to have value. The re-evaluation considers data and information from pesticide manufacturers, published scientific reports and other regulatory agencies. The PMRA applies internationally accepted risk assessment methods as well as current risk management approaches and policies.

Cypermethrin is an insecticide registered for control of a broad spectrum of insect pests in a wide range of sites, including forests and woodlots, tobacco, industrial oilseed and fibre crops, various food and feed crops, livestock and non-crop industrial areas (roadsides). Currently registered products containing cypermethrin are listed in Appendix I.

This document presents the final regulatory decision[1] for the re-evaluation of cypermethrin, including the required risk mitigation measures to protect human health and the environment. All products containing cypermethrin that are registered in Canada are subject to this re-evaluation decision. This re-evaluation decision has undergone a 90-day consultation period on the Proposed Re-evaluation Decision PRVD2016-18, *Cypermethrin,*[2] which ended on 28 November 2016.

The PMRA received two comments relating to the environmental assessment. These comments are summarized in Appendix II along with the responses by the PMRA. The comments did not result in a change to risk assessments. A recommendation was made in PRVD2016-18 for a 10-metre wide vegetative filter strip. More recently, a mandatory vegetative filter strip was proposed for a related insecticide, permethrin (PRVD2017-18). After considering comments received on that proposal, the PMRA has determined that a vegetative filter strip would also be an effective mitigation measure to reduce cypermethrin in runoff and is therefore mandating 10-metre wide vegetative filter strips for agricultural uses. A reference list of data used as the basis for the proposed re-evaluation decision is included in PRVD2016-18.

## Outcome of Science Evaluation

Cypermethrin has value as an insecticide for a variety of uses as noted previously, and for rotation with carbamate and organophosphate insecticides to delay the development of resistance. Several uses of cypermethrin have particular value for pest management due to the limited availability of alternatives, or for resistance management.

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1 "Decision statement" as required by subsection 28(5) of the *Pest Control Products Act.*

2 "Consultation statement" as required by subsection 28(2) of the *Pest Control Products Act.*

With respect to human health, no risks of concern were identified when mixer/loader and applicator exposure was estimated based on baseline personal protective equipment (long pants, long-sleeved shirts and chemical-resistant gloves) for all uses except for mechanically pressurized handgun application to strawberry when additional personal protective equipment (cotton overalls) was considered. No risks of concern were identified at a 12-hour restricted-entry interval (REI) for all uses except for hand-harvest sweet corn and girdling/turning grapes. Therefore, REIs of 5 and 7 days. respectively, for hand-harvesting sweet corn and girdling/turning grapes are required, while a 12-hour REI is required for all other crops. Exposure from the currently registered uses is unlikely to affect human health when used according to the revised label directions

When cypermethrin is released into the environment, it can enter soil and surface water. It is not expected to persist in soils, or to move downward through the soil and enter groundwater. When it enters aquatic environments, it rapidly moves from water into sediments where it is not expected to persist. Available Canadian surface monitoring data indicate that it is detected very infrequently at levels that would result in risk to aquatic organisms. It can vapourize and enter the atmosphere, but is unlikely to persist or move in air to remote locations such as the Arctic. Cypermethrin is not expected to accumulate in the tissues of organisms. It may pose risks to pollinators, beneficial insects, and aquatic organisms when they are exposed to high enough concentrations. For pollinators, risks are mitigated by restricting application to periods when bees are not actively foraging. Risks to aquatic organisms are mitigated with spray buffer zones, vegetative filter strips, and requirements to reduce runoff from fields. Environmental hazard statements are required on product labels for pollinators, beneficial insects and aquatic organisms. When used according to the label directions, cypermethrin is not expected to pose risks of concern to the environment.

## Regulatory Decision for Cypermethrin

The PMRA has completed the re-evaluation of cypermethrin. Under the authority of the *Pest Control Products Act*, the PMRA has determined that continued registration of products containing cypermethrin is acceptable. An evaluation of available scientific information found that uses of cypermethrin products do not present unacceptable risks to human health or the environment when used according to the conditions of registration, including amended label directions. No products or uses are being cancelled as a result of this re-evaluation decision. Label amendments, as summarized below and listed in Appendix III, are required for all technical and end-use products. No additional data are requested.

## Risk Mitigation Measures

Registered pesticide product labels include specific directions for use. Directions include risk mitigation measures to protect human health and the environment and must be followed by law.

**Human Health**

To protect mixer/loader/applicators, the following statements must be added to all agricultural product labels:

- Wear long-sleeved shirt, long pants and chemical-resistant gloves during mixing, loading, application, clean up and repair. In addition, wear goggles or face shield during mixing and loading.

- For mechanically pressurized handgun application to strawberry: Wear coveralls (over single layer of clothes) and chemical-resistant gloves during mixing, loading and application.

To protect workers entering treated sites, modified restricted-entry intervals (REI) must be added to all agricultural labels.

To protect bystanders, the following statement must be added to all commercial class product labels:

- Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

The following statement must be added to all agricultural product labels:

- A 30-day plant-back interval must be observed for all unlabelled crops.

**Environment**

- Environmental hazard statements for bees, beneficial insects, and aquatic organisms are required.

- Label statements restricting timing of application of cypermethrin during the blooming period of bee-attractive crops are required.

- To reduce the potential for runoff to adjacent aquatic habitats, precautionary statements are required for sites with characteristics that may be conducive to runoff and when heavy rain is forecasted.

- A mandatory minimum 10-metre vegetative filter strip is required between the treatment area and the edge of a downslope water body to reduce runoff and risk to aquatic organisms.

- Spray buffer zones (Appendix III) are required to reduce risk to non-target terrestrial plants and aquatic organisms.

## Next Steps

To comply with this decision, the required mitigation measures must be implemented on all products labels sold by registrants no later than 24 months after the publication date of this decision document. Appendix I lists the products containing cypermethrin that are registered under the authority of the *Pest Control Products Act*.

## Other Information

Any person may file a notice of objection[3] regarding this decision on cypermethrin within 60 days from the date of publication of this Re-evaluation Decision. For more information regarding the basis for objecting (which must be based on scientific grounds), please refer to the Pesticides section of Canada.ca (Request a Reconsideration of Decision) or contact the PMRA's Pest Management Information Service.

[3] As per subsection 35(1) of the *Pest Control Products Act*.

## Science Evaluation Update

At the time when PRVD2016-18 was published, the PMRA was in the process of revising its approach to buffer zones for all chemicals. Buffer zones have since been refined by setting restrictions on some spray application parameters (droplet size, wind speed, humidity, temperature, low drift spray nozzle technology), and some changes have been made from the buffer zones listed in PRVD2016-18. The revised buffer zones are listed in Appendix III. The PMRA has also determined that a vegetative filter strip would be an effective mitigation measure for cypermethrin in runoff and is, therefore, mandating 10-metre wide vegetative filter strips for agricultural uses of cypermethrin. No other updates have been made to the science evaluation of cypermethrin. Updates to the Incident Report Assessment are provided below. All required label amendments are listed in Appendix III.

Since the publication of PRVD2016-18, the PMRA received one additional domestic animal incident report involving cypermethrin. There were no additional human incidents. The domestic animal incident occurred in the United States. In this incident, a dog was reported to have died following contact with an outdoor area that had been treated with a product containing cypermethrin and bifenthrin. Based on the delayed onset (a month later) of the effects and the lack of correlation between the effects and the toxicological profiles of the reported active ingredients, the incident was considered unlikely to be related to the reported product.

Bee death incidents from three different bee yards were reported in 2015 from Alberta and Manitoba. The PMRA review concluded that it is probable that cypermethrin contributed to the bee deaths. This is consistent with a previous bee death incident reported in 2013 from Quebec. As a result of the re-evaluation, additional label statements are required to mitigate risks to bees. When these label statements are followed, they are expected to provide adequate protection for bees. The label statements to mitigate risks to bees have been further updated in this decision document to be consistent with current mitigation to protect pollinators. Compared to PRVD2016-18, and as indicated in Appendix III, further restrictions are required prohibiting application during bloom for crops expected to result in high pollinator exposure.

# Appendix I Registered Cypermethrin Products in Canada

**Table 1 Registered Cypermethrin Products in Canada[1]**

| Registration Number | Marketing Class | Registrant | Product Name | Formulation | Guarantee |
|---|---|---|---|---|---|
| 15738 | C | BASF Canada Inc. | Ripcord 400EC Agricultural Insecticide | Emulsifiable Concentrate | 407 g/L |
| 19186 | T | BASF Canada Inc. | Cypermethrin Technical Insecticide | Liquid | 95% |
| 30353 | M | BASF Canada Inc. | Ripcord 400 EC Bulk Insecticide | Emulsifiable Concentrate | 407 g/L |
| 24438 | C | Vétoquinol N.-A. Inc. | Eliminator Ear Tags | Slow-Release Generator | 6% |
| 28092 | T | United Phosphorus Inc. | Cypermethrin Technical Insecticide | Liquid | 97.78% |
| 28795 | C | United Phosphorus Inc. | Up-Cyde 2.5 EC | Emulsifiable Concentrate | 250 g/L |
| 30316 | C | Engage Agro Corporation | Mako Insecticide | Emulsifiable Concentrate | 407 g/L |
| 32074 | T | Sharda Cropchem Limited | Sharda Cypermethrin Technical Insecticide | Liquid | 97.2% |
| 32563 | C | Sharda Cropchem Limited | Ship 250 EC Insecticide | Emulsifiable Concentrate | 250 g/L |

[1] as of 17 May 2018, excluding discontinued products or products with a submission for discontinuation

# Appendix II Comments and Responses

In response to the consultation for the cypermethrin proposed re-evaluation decision, the following comments were received:

**Comments Related to the Environmental Risk Assessment**

Two comments expressing concern over the size of the proposed buffer zones for cypermethrin were received from grower groups based in Quebec (L'Association des producteurs maraîchers du Québec and Les Producteurs de pommes du Québec). One of them was favourable towards the mandatory vegetative filter strip. Neither comment provided additional scientific information.

**Response to comments pertaining to concern over the size of spray buffer zones.**

The proposed spray buffer zones calculated based on fine American Society of Agricultural Engineers (ASAE) spray droplet size were large and did not fully mitigate the risk to aquatic organisms for some agricultural ground applications and all aerial applications. To better mitigate the potential risk to aquatic organisms, spray buffer zones were refined by setting restrictions on various spray application parameters (spray droplet size, wind speed, humidity, temperature, low drift spray nozzle technology, reduced number of applications). Restrictions for aerial applications include adjustments to spray droplet size (medium/coarse), wind speeds at the time of application (<10 km/h), temperature at the time of application (<20°C) and relative humidity at the time of application (<50%). For all ground field sprayer use, restrictions include the use of low drift air induction nozzles only, and wind speeds at the time of application (<8 km/h). These restrictions are consistent with those proposed in the proposed re-evaluation decision for permethrin (PRVD2017-18).

With these restrictions, the spray buffer zones required for aerial application of cypermethrin for the protection of freshwater and marine habitats remain large (limited to 800 metres). The spray buffer zones for the protection of these habitats are calculated based on acute effects to freshwater and marine invertebrates, which are known to be highly sensitive to pyrethroids relative to other aquatic organisms. Despite their high sensitivity, the potential for acute risk to aquatic invertebrates is expected to be low because:

1) The aerial buffer zones (limited to 800 metres) are expected to mitigate > 99% of the acute risk for aquatic invertebrates.
2) Aquatic field dissipation data show that when cypermethrin is received as a direct overspray to ponds or streams, its detection in surface water is short lived (half-lives ranging from 10 to 24 hours are reported). The adherence to spray buffer zones will further reduce the potential acute exposure risk significantly and aquatic invertebrate populations would be expected to recover quickly via recolonization.
3) Marine/estuarine environments are subject to daily tidal flushing events. As a result, marine invertebrate populations that are potentially at risk from receiving aerial spray drift would also be expected to recover quickly via recolonization.

Based on the above reasoning, with the restrictions in place, the risk to aquatic organisms from spray drift is considered acceptable. Spray buffer zones are applicable between the point of direct application and the closest downwind edge of sensitive habitats. Should the required spray buffer zones be undesirable to growers or unfeasible, the option remains to wait for a change in wind direction away from sensitive areas.

## Appendix III Label Amendments for Products Containing Cypermethrin

The label amendments presented below do not include all label requirements for individual products, such as first aid statements, disposal statements, precautionary statements and supplementary protective equipment. Information on labels of currently registered products should not be removed unless it contradicts the following label statements.

**I) The following changes must be made to the labels of technical class products containing cypermethrin:**

1) The following statement is to be added to the labels of technical grade cypermethrin under the section entitled "Toxicological Information":

   Skin exposure may cause transient sensations (tingling, burning, itching, numbness). Treat symptomatically.

2) The following statements are to be added to the "Environmental Hazards" section of the Cypermethrin Technical Insecticide label:

   TOXIC to aquatic organisms.

3) The following statement is to be added under the "Precautions" Section of the Cypermethrin Technical Insecticide label:

   DO NOT discharge effluent containing this product into sewer systems, lakes, streams, ponds, estuaries, oceans or other waters.

**II) The following changes must be made to the labels of commercial class products containing cypermethrin:**

1) The following label statement must be added to the "Precautions" section of commercial end-use product labels:

   Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

2) The following statement must be added to the labels of commercial class products containing cypermethrin under the section entitled "Toxicological Information":

   Skin exposure may cause transient sensations (tingling, burning, itching, numbness). Treat symptomatically.

3) The following statements must be added to the "Environmental Hazards" section of all product labels:

Toxic to aquatic organisms. Observe buffer zones and vegetative filter strips specified under DIRECTIONS FOR USE.

TOXIC to bees. Bees may be exposed through direct spray, spray drift, and residues on leaves, pollen and nectar in flowering crops and weeds. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. Avoid applications when bees are foraging in the treatment area in ground cover containing blooming weeds. To further minimize exposure to pollinators, refer to the complete guidance "Protecting Pollinators during Pesticide Spraying – Best Management Practices" on Canada.ca (www.canada.ca/pollinators). Follow crop specific directions for application timing.

For applications on crops that are highly attractive to pollinators [canola, rapeseed, mustard, sunflowers, apples, peaches, nectarines, plums, pears, evening primrose, CG12 Stonefruit, Berry and small fruit, CG 13-07F-small fruit vine climbing, 13-07A-caneberry, 13-07G-low growing berry, excluding grape and strawberry] or when using managed bees for pollination services: DO NOT apply during the crop blooming period.

For applications on all other pollinator attractive crops [strawberry, grape, corn, potato, tobacco, tomato, summer fallow, roadsides, headlands]: Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland.

To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

To reduce risk to aquatic organisms from runoff, a vegetative filter strip of at least 10 metres wide between the field edge and adjacent, downhill aquatic habitats must be observed, as specified under DIRECTIONS FOR USE.

4) The following statements must be added to the "Directions for Use" Section on all product labels:

To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.

*For crops that are highly attractive to pollinators [canola, rapeseed, mustard, sunflowers, apples, peaches, nectarines, plums pears, evening primrose, CG12 Stonefruit, Berry and small fruit CG 13-07F-small fruit vine climbing, 13-07A-caneberry, 13-07G-low growing berry, excluding grape and strawberry] include in the crop specific directions for use:*

Toxic to bees. DO NOT apply during the crop blooming period.

*For applications on all other pollinator attractive crops [strawberry, grape, corn, potato, tobacco, tomato, summer fallow, roadsides, headlands] include in the crop specific directions for use:*

Toxic to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

**Vegetative Filter Strips:**

A Vegetative Filter Strip (VFS) of at least 10 metres wide must be constructed and maintained. The VFS is required between the field edge and adjacent, downhill aquatic habitats to reduce risk to aquatic organisms from runoff. Aquatic habitats include, but are not limited to, lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, and estuaries.

The VFS is to be composed of grasses and may also include shrubs, trees, or other vegetation. Additional guidance can be found on the PMRA Environmental Risk Mitigation webpages.

Both VFS and spray drift buffer zones must be observed.

**Spray Drift Buffer Zones:**

Spray drift buffer zones are to protect terrestrial and aquatic habitats from spray drift in the air. Spray drift buffer zones are a separate requirement from VFS which are required to mitigate risks from runoff on the ground.

**Field sprayer application: DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 8 km/h at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Air-induction nozzles must be used for the ground application of this product. Boom height must be 60 cm or less above the crop or ground.

**Airblast application: DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind

speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

**Aerial application: DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 8 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium-coarse classification. DO NOT apply under weather conditions of less than 50% relative humidity and temperatures greater than 20°C. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing- or rotorspan.

**Buffer zones:**

Spot treatments using hand-held equipment **DO NOT** require a buffer zone.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Buffer Zones Required

| Method of application | Crop | | Buffer Zones (metres) Required for the Protection of: | | | |
|---|---|---|---|---|---|---|
| | | | Freshwater Habitat of Depths: | | Estuarine/Marine Habitat of Depths: | |
| | | | Less than 1 m | Greater than 1 m | Less than 1 m | Greater than 1 m |
| Field sprayer | Tobacco pre-plant | | 20 | 10 | 100 | 45 |
| | Tobacco seedling | | 15 | 5 | 85 | 40 |
| | Corn | | 20 | 10 | 55 | 25 |
| | Conifer seedling, canola, mustard, tobacco post-treatment, stevia, potato, carrot, lettuce, onions, strawberry | | 15 | 5 | 55 | 25 |
| | Barley, wheat, evening primrose | | 10 | 4 | 55 | 25 |
| | Cole crops (cabbage, broccoli, cauliflower, Brussels sprouts), rutabaga, turnip | | 10 | 5 | 40 | 20 |
| | Asparagus, celery, tomato | | 10 | 4 | 30 | 15 |
| | Tobacco cover crop | | 5 | 3 | 30 | 15 |
| | Roadside, summer fallow, headland, sunflower | | 5 | 3 | 25 | 10 |
| Airblast | Apple, pear, plum | Early growth stage | 75 | 65 | 90 | 80 |
| | Grape, peach, nectarine | Early growth stage | 70 | 60 | 85 | 75 |
| Aerial | Corn | Fixed wing | 800 | 625 | 800 | 800 |
| | | Rotary wing | 800 | 500 | 800 | 800 |
| | Canola | Fixed wing | 775 | 475 | 800 | 800 |
| | | Rotary wing | 425 | 200 | 800 | 800 |
| | Sunflower | Fixed wing | 750 | 450 | 800 | 800 |
| | | Rotary wing | 350 | 175 | 800 | 800 |
| | Potato | Fixed wing | 800 | 600 | 800 | 800 |
| | | Rotary wing | 725 | 325 | 800 | 800 |

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The buffer zones for airblast application of this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the PMRA web site. Buffer zones for field sprayer or aerial application CANNOT be modified using the Buffer Zone Calculator.

5) The following statements must be added to the "Directions for Use" Section for the following crops:

- For Stevia: "Use a minimum of 100 litres and no more than 500 litres of spray solution per hectare."
- For greenhouse Tobacco Seedlings: "Do not apply by fogger or hand-held mistblower."
- For Lettuce and Tomato: "NOT FOR GREENHOUSE USE"
- For all crops: "Crop Rotation: Rotational crops may not be planted within 30 days after the last application, except crops on which cypermethrin is registered (listed on this label)."
- A 30-day plant-back interval must be observed for all unlabelled crops.

6) Use directions must include the information in the table below, where applicable. Information highlighted in grey indicates application directions that are consistent with assumptions used in the PMRA's risk assessments.

| Site/Crop | Spray Volume (Litres/ha) | Maximum Number of Applications | Minimum Interval between Applications (days) |
|---|---|---|---|
| Conifer seedling (Nursery) | 100–500 | 3 | 7 |
| Roadsides | 110 | 3 | 7 |
| Summer fallow, headlands | 110 | 3 | 7 |
| Barley | 110 | 3 | 7 |
| | 200–500 | 1 | N/A |
| Wheat | 110 | 3 | 7 |
| | 200–500 | 1 | N/A |
| Canola | 100–500 | 3 | 7 |
| Sunflower | 100–120 | 2 | 5 |
| Corn | 300–500 | 3 | 7 |
| Corn – seedlings | 200–500 | 1 | N/A |
| Apples | 3333 for dilute sprays | 3 | 7 |
| Potato | 200–500 | 2 | 10 |
| | 100–500 | 3 | 10 |
| Asparagus | 100–500 | 3 | 7 |
| Carrot | 550 | 3 | 7 |
| Carrot – seedlings | 200–500 | 3 | 7 |
| Celery | 500 | 3 | 7 |

| Site/Crop | Spray Volume (Litres/ha) | Maximum Number of Applications | Minimum Interval between Applications (days) |
|---|---|---|---|
| Cole crops (such as cabbage, cauliflower, broccoli and Brussels sprouts) | 100–500 | 3 | 14 |
| Cole crops (such as cabbage, cauliflower, broccoli and Brussels sprouts) – seedlings | 200–500 | 1 | N/A |
| Lettuce | 100–500 | 4 | 7 |
| | 200–500 | 3 | 7 |
| Grape (excluding table grapes) – Hand harvest | 400 or more | 2 | 7 |
| Grape (excluding table grapes) – Mechanical harvest | 400 or more | 3 | 7 |
| Grapes | 100–500 | 3 | 7 |
| Onions | 100–500 | 3 | 7 |
| Onions (seedlings and transplants) | 200–500 | 1 | N/A |
| Peach | 550 for airblast sprayer<br>3333 for dilute sprays | 2 | 7 |
| Nectarine | 550 for airblast sprayer<br>3333 for dilute sprays | 2 | 7 |
| Pear | 3333 for dilute sprays | 2 | 7 |
| | 500–1500 | 3 | 7 |
| Plum | 500–1500 | 3 | 7 |
| Rutabaga, Turnip | 100–500 | 3 | 7 |
| Strawberry | 300–500 | 3 | 7 |
| | 100–500 | 2 | 7 |
| | 100–500 | 3 | 7 |
| Tomato | 100–500 | 3 | 7 |
| Tobacco – Post-plant treatment | 150–300 | 2 | 7 |

7) The following statement must be added to the "PROTECTIVE CLOTHING AND EQUIPMENT" section:

For Mechanically Pressurized Handgun application to strawberry: Wear coveralls (over single layer of clothes) and chemical-resistant gloves during mixing, loading and application."

8) Restricted-entry intervals (REI) specified in the following table must be specified on cypermethrin labels, where applicable:

| Crop | Postapplication Activity | REI |
|---|---|---|
| Corn, Sweet | Hand harvesting | 5 days |
| | All other activities | 12 hours |

| | | |
|---|---|---|
| Grape | Girdling | 7 days |
| | Turning | 7 days |
| | All other activities | 12 hours |
| All other crops | All activities | 12 hours |

9) The changes noted below must be made to the "PRECAUTIONARY STATEMENTS" sections of the following products:

**Up-Cyde 2.5 EC Agricultural (Reg. No. 28795):**

**Remove:** "In addition, wear a face shield or eye goggles when mixing."

**Replace with:** "In addition, wear goggles or face shield during mixing and loading."

**Ripcord 400 EC Agricultural Insecticide (Reg. No. 15738) and Ripcord Insecticide (Reg. No. 30316):**

**Remove:** "Wear long-sleeved protective clothing and gloves when handling or applying material. Wear face shield or eye goggles when mixing."

**Replace with:** "Wear long-sleeved shirt, long pants and chemical-resistant gloves during mixing, loading, application, clean up and repair. In addition, wear goggles or face shield during mixing and loading."